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Delinquency Proneness and School Achievement

By SIMON DINITZ, BARBARA KAY, AND WALTER C. RECKLESS

THIS study relates delinquency vulnerability measures to intelligence-test scores and to reading and arithmetic achievement levels of sixth-grade boys.[1] It is an outgrowth of a more comprehensive investigation on potentially non-delinquent and potentially delinquent white boys in high-delinquency areas.[2]

In the larger study, all sixth-grade teachers in schools located in the areas of greatest delinquency in Columbus, Ohio, were asked to nominate and evaluate the boys in their classrooms who, in their estimation, would never experience contact with the police or juvenile court. These nominees, after official clearance for previous involvement with the law, were then interviewed with a series of instruments designed to measure delinquency vulnerability, social responsibility, concepts of self, and evaluations of family and other interpersonal relations. The mothers of the nominees were similarly studied. Later the same teachers in the same schools in the same high-delinquency areas nominated those white boys who they felt were almost certain to experience future difficulties with the law. Legal-agency clearances and interviews with the boys and their mothers followed.

These studies revealed that the potentially non-delinquent boys generally defined themselves as accepting legal and social norms in their home and school lives and in their friendship patterns and leisure activities. In short, they conceived of themselves and were thought by others to be "good" boys. The

[1] This is a modified version of a paper presented at the annual meeting of the Ohio Academy of Science on April 19, 1957. The study was made possible by a grant from the Ohio State University Development Fund. It was suggested by Josephine H. MacLatchy of the Bureau of Educational Research, Ohio State University.

[2] Reckless, W. C.; Dinitz, Simon; and Murray, Ellen. "Self Concept as an Insulator against Delinquency," *American Sociological Review*, XXI (December, 1956), pp. 744-46. *See also* W. C. Reckless, Simon Dinitz, and Barbara Kay, "The Self Component in Potential Delinquency and Potential Non-Delinquency" (Mimeographed).

nominated candidates for delinquency, on the other hand, were more negative in their appraisals of self and social norms and of their relationships with others. Many anticipated future involvements in violational behavior. Within this group of potentially delinquent boys, those who already had experienced contacts with the law expected to get into future trouble far more often than the prone but not yet adjudicated cases. On the basis of this research it was therefore proposed that appropriate or inappropriate concepts of self and others might constitute the component which steered boys in adverse neighborhood environments away from or toward delinquency.

THIS paper is concerned with one specific facet of the problem of "insulation" against or proneness for involvement in delinquency, namely, the extent to which delinquency vulnerability may be related to school achievement and intellectual ability. Although many previous studies have shown that intelligence is not an outstandingly important factor in crime and delinquency, very little has been done with school achievement, particularly reading, and its relation to delinquency.[3] This lack of research has occurred despite repeated observations by teachers that youngsters with reading and arithmetic disabilities are very often to be found in difficulty with the law. Similar observations have been made by juvenile-court and correctional workers.

It is thought that a study of extreme cases, that is, "insulated" *versus* delinquency-prone boys, might reveal some significant differences in reading and arithmetic achievement levels and in intelligence quotients. It is *not* suggested that these disabilities cause delinquency proneness or that the reverse is true, but only that each is significantly related to the other.

Six measures were used to test the hypothesized relationship between delinquency proneness and school achievement. These included (1) the delinquency vulnerability (DE) and (2) social responsibility (RE) scales of the Gough California Psychological Inventory and (3) a delinquency proneness (DP) index,[4] based on the combined vulnerability and responsibility scales and

[3] Tulchin, Simon H. *Intelligence and Crime*. Chicago: University of Chicago Press, 1939. *See also* L. D. Zeleny, "Feeblemindedness and Criminal Conduct," *American Journal of Sociology*, XXXVIII (January, 1933), pp. 564-78.

[4] Gough, Harrison G. "Systematic Validation of a Test for Delinquency." Reprint of a paper delivered at the annual meeting of the American Psychological Association, September, 1954. *See also* Harrison G. Gough and Donald Peterson, "The Identification and Measurement of Predispositional Factors in Crime and Delinquency," *Journal of Consulting Psychology*, XVI (June, 1952), pp. 207-12.

scores. These instruments had been administered individually to each of the 125 sixth-grade white boys who had been nominated as being "insulated" against delinquency and to the 101 sixth-grade white boys in the same schools who had been nominated by the same teachers as headed for involvement with the law.

The school records of each of these 226 nominees were also examined. For most of them, about 63 per cent, results on (4) the California Mental Maturity Test (which had been administered in the fifth grade) and the short forms of the Stanford tests in (5) reading and (6) arithmetic were available.[5]

THE findings in this study may be summarized as follows. *First*, the potentially non-delinquent and potentially delinquent nominees differed significantly on the DE, RE, and DP scales. The "insulated" (potentially non-delinquent) boys scored much lower on the Delinquency Vulnerability (DE) and much higher on the Social Responsibility (RE) scales. Their composite mean delinquency proneness (DP) score was also significantly lower than that of the potentially delinquent nominees.

Second, within the sample of 101 delinquency-prone sixth-graders, the 77 boys with no police or juvenile-court contact scored significantly lower on the DE scale, higher on the RE scale, and lower on the composite scale than the 24 delinquency-prone nominees who had already experienced difficulties with the law. All of these differences were in the expected directions and could not be attributed to chance variations.

Third, as shown in Table I, the "insulated" nominees had a mean intelligence-quotient rating on the California Mental Maturity Test which was over 11 points higher than the mean score of the boys nominated as being potentially delinquent (98.39 *vs.* 87.19). This difference was highly significant as was the difference in the intelligence-quotient ratings of the non-contact and contact cases among the prone boys. The mean intelligence-quotient score of the non-contact cases was 88.55 against 83.19 for the contact cases.

These findings seem to contradict the generally accepted finding that there is very little difference in intelligence-quotient levels of comparable samples of delinquent and non-delinquent

[5] All three of these examinations had been administered as part of the regular school testing program and were independent of the schedules which we administered.

boys (with a mean age at least three years older than the present sample). In accounting for these rather sizable variations in intelligence-test scores among the "insulated," delinquency-prone, and already delinquent subjects, it is suspected that the teachers may have made their selection of "good" boys and potentially delinquent boys as much on learning ability as on other traits and factors. There is also good reason to believe that the intelligence-quotient score is more a measure of past school experience, school attendance, attitude toward school, and other purely social variables than of actual inherent ability. Consequently, one might argue that the attitude of the subjects toward school and education, in general, accounts as much as any single factor for the differences observed here. Another alternative explanation might be that at this threshold age of entry into delinquency (twelve years of age), intelligence is a more highly correlated variable than at succeeding age levels when the impact of intelligence on behavior is more blunted by social experience. Whatever the explanation, additional testing of this relationship at the sixth-grade level appears to be warranted.

Fourth, the potentially non-delinquent (insulated) and potentially delinquent nominees also differed, as expected, in their reading comprehension and achievement. The sixth-graders defined as "good" boys by their teachers and by the delinquency-proneness instruments had a reading-grade level of 6.71 as opposed to a mean level of 5.37 for the nominated potential delinquents. This difference was statistically significant. The non-contact and contact cases within the prone group, however, had reading-achievement scores (5.47 *vs.* 5.02) which did not vary enough to be considered significant, although there was a tendency for variation in the expected direction.

These differences in reading achievement might be attributed to motivational differences among the nominated boys. The delinquency-prone subject, as indicated by much of our other data, is often negative toward school and other social institutions. This attitude cannot help but be reflected in his school work and behavior which, in turn, tend to confirm him in his less desirable attitude toward school. There are, of course, alternative explanations of these observed reading deficiencies among delinquency-prone subjects but the motivational aspect seems to us to loom largest in this respect.

Fifth, the pattern of differences among the various groups of subjects in arithmetic scores closely approximated that with

regard to reading. The "good" boys showed significantly greater competence in arithmetic than the delinquency-prone group but within the prone group the non-contact and contact cases were closer than anticipated. These variations are also shown in Table I.

TABLE I

MEAN SCORES AND VARIATIONS ON INTELLIGENCE QUOTIENT, READING AND ARITHMETIC TESTS OF THE POTENTIALLY NON-DELINQUENT AND POTENTIALLY DELINQUENT BOYS

Tests and Scores	Number	Mean	Standard Deviation	C.R. or T of Difference in Means	P
(1)	(2)	(3)	(4)	(5)	(6)
Calif. Mental Maturity (I.Q.)					
Non-delinquent	81	98.39	15.40	4.71	.001
Potentially delinquent	63	87.19	13.12		
Non-contact cases	47	88.55	14.05	2.95	.001
Contact	16	83.19	8.77		
Stanford Achievement—Reading					
Non-delinquent	109	6.71	1.88	4.32	.001
Potentially delinquent	85	5.37	2.33		
Non-contact cases	66	5.47	2.34	.73	N.S.*
Contact	19	5.02	2.27		
Stanford Achievement—Arithmetic					
Non-delinquent	109	6.65	1.32	4.58	.001
Potentially delinquent	85	5.67	1.59		
Non-contact cases	66	5.73	1.61	.62	N.S.*
Contact	19	5.49	1.48		

* Not significant.

Out of a total pool of 101 potentially delinquent and 125 potentially non-delinquent white boys in the sixth-grade rooms of schools in the high-delinquency areas of Columbus, Ohio, 85 of the former were found to be over a year behind 109 of the latter on reading and arithmetic achievement, as measured by the short form of the Stanford Achievement Tests in reading and arithmetic and administered in the sixth grade. This finding gives some support to the claim that delinquent boys (usually with an average age three and a half years older than our twelve-year-old boys) display reading and arithmetic disability when compared with non-delinquent boys. The authors suspect that negative attitudes toward school and other social institutions may account for the poorer showing of the potentially delinquent as contrasted with the potentially non-delinquent white boys, at

this threshold age for involvement in official delinquency in American cities, namely twelve years or the sixth grade in school.

Sixty-three from the pool of 101 potentially delinquent white boys showed an average score on the California Mental Maturity Test (administered to the children in the fifth grade at the Columbus schools) of 87.19 as contrasted with an average score of 98.39 for 81 potentially non-delinquent white boys. This 11-point difference seems to warrant a further look at the possible relationship of intelligence-quotient performance to delinquent tendencies at the threshold age for involvement in overt delinquency.

It is possible that the good boy nominees (the potentially non-delinquent or insulated boys) were selected, in large part, by their teachers as boys unlikely to come in contact with the police or juvenile court, on the basis of their "good" ability showing. It is also possible that intelligence quotient would be more apt to be associated with behavioral deviations at twelve years of age (the threshold age for involvement in delinquency) than it would be at fifteen or sixteen years of age, when the impact of learning ability on behavior is likely to be blunted by the many residues of experience in the widening teen-age world, including duck tails, bop talk, the 45-rpm record, and rock 'n' roll.

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* * *

Summer Workshops in the Teaching of Arithmetic

THE Bureau of Educational Research, Ohio State University is sponsoring two three-week workships, July 23–Aug. 9 and Aug. 5–23, for those interested in improving their teaching of arithmetic. The workshops, under the direction of Catherine M. Williams of the Bureau Staff, will be non-credit, geared to meet the needs of teachers in service rather than to offer them an additional course. There will be opportunity to explore all types of both book and non-book resources useful for making arithmetic an interesting, meaningful adventure in learning. That certificates are to be awarded will be a matter of special interest to teachers who receive salary increments for self-improvement. Further information and enrollment blanks may be obtained from the Bureau.

Evaluation: a Reappraisal

By R. RODERICK PALMER

Among the many competitors for a share of the public money, education will not receive the generous financial support it needs unless it can demonstrate that its efforts are fruitful. There are many unanswered criticisms of an education that is alleged to be merely bookish and pedantic—wholly out of touch with the real needs of the given community.[1] There is too obvious a need to prove that we are getting results, if we are; or to develop a workable plan for bringing about improvement, if we are not.

In so far as we can agree on definite objectives for our schools and can devise measures for determining the attainment of these objectives, we shall be able to utilize the experimental method which has remarkably advanced medicine and the other natural sciences. In a few areas we have already accomplished this. But in many areas of education we have been hindered partly by our inability to agree on primary objectives, partly by the refusal of many seasoned school people to take seriously any objectives beyond simple subject-matter mastery, and partly by the widespread belief that is is impossible to discover whether our curriculums and teaching methods are achieving other objectives.

The difficulty of getting teachers and administrators to regard a list of objectives as something more than an external ornament to the school, which need not affect its daily work, or as a set of generalities which can be so interpreted as to justify whatever the school prefers to do, is being relieved in a measure by the growing possibility of checking up on the attainment of these objectives. The difficulty of accomplishing this is being gradually reduced by ingenuity and experimentation and persistent effort, as a result of the growing conviction that if we are to find out whether we have attained a certain objective, we must apply tests directly to that objective. We must not depend upon testing attainment in areas in which measurement is easy, such as that of factual information, and then assume that, if the measurable objective has been achieved, it is reasonable to suppose that the immeasurable or intangible ones have also been achieved. The

[1] *See* the criticisms Robert A. Skaife examines in his article, "The Sound and the Fury," in *Phi Delta Kappan*, XXIV (June, 1953), pp. 357-62.

evidence now available indicates that no such correlation as would be needed to justify the procedure is actually to be found.

EVALUATION, a broader concept than measurement, includes the idea of discovering the worth and effectiveness of an activity as well as discovering merely its size or extent. Synonyms for evaluating are appraising, estimating, judging. If we are to appraise the effectiveness of different ways of teaching children to read, we must have a quantitative measure of their capacity to understand what they read. This is evaluation at a high level of development, one in which it can rest its case on objective measurement; when objectivity is impossible, evaluation will depend upon the most reliable of subjective measures. Evaluation here differs from measurement in that it includes both subjective and objective means of appraisal. It also differs from measurement because its field of interest is wider. It is concerned not only with the simpler outcomes of instruction, such as skills and information, but with attitudes, appreciations, and the other so-called intangibles.

But the greatest difference between evaluation and measurement lies in the attitude with which problems are approached. Measurement accepts the traditional school very much as it is and simply asks: How can that school be made more effective? How can the children be taught to read, write, and spell, to learn their geography and their history, in less time and at less cost than in the past? Evaluation first asks, What are the true objectives of the school? Is the school meeting those objectives? It is not turned aside by the fact that we have no instruments for measuring achievement in the lines represented by some of these objectives. It refuses to confine its effort, as measurement does, to those fields in which objective tests and scales have been constructed. It starts not from what exists in the way of objective measurements, with the idea of building out from there, but rather from a list of goals, with the idea of estimating attainment of each of them as accurately as possible. Measurement says let us measure a few things accurately. Evaluation says let us neglect nothing, using accurate measurement for those goals for which we have scales, but omitting no educational goal merely because we still have no scales for it. Let us use accurate measurement when we can, but make subjective estimates for those outcomes where no accurate measurements yet exist, rather than ignoring them and thus throwing our whole appraisal out of focus.

To EVALUATE instruction it is necessary to make at least four appraisals[2] of which the first is to determine the objectives of instruction in given courses or in particular schools. Here it is the custom of the evaluator first to consult the instructors. The views of one instructor are supplemented by those of another. These in turn are related to more general concepts to be found in expositions of educational philosophy. Through a series of discussions it has then been found possible to formulate a list of objectives to which all will agree. By this method the members of the Evaluation Staff of the Commission on the Relation of School and College worked out the following statement of the objectives sought by the thirty high schools which co-operated in the Eight-Year Study:

> Acquisition of certain information
> Development of effective work habits and study skills
> Development of a wider range of significant interests
> Development of more social attitudes
> Development of appreciations, particularly of literature, arts, and music
> Development of more social sensitivity
> Development of effective ways of thinking
> Developing satisfactory social adjustments
> Growth of emotional stability
> Physical health
> Fundamental purposes of their own—a philosophy of life[3]

After the objectives are listed, the next step is to determine how their attainment can be indicated by some sort of perceptible change in the pupils. This is difficult. Most educational objectives are stated in terms that are general and abstract, and evidence of them in pupil behavior is but rarely observed. Usually the initial statement of an objective has to be revised a number of times before it can be formulated with reference to behavior. It is obvious that the older educational aims such as "good citizenship," "vocational efficiency," "desirable use of leisure time," are too vague to be subject to appraisal even by the most ingenious of scale makers. In contrast, the objectives listed by the Eight-Year Study proved under trial to be definite enough to be subject to rough and often precise appraisal.

[2] Tyler, Ralph W. "Place of Evaluation in Modern Education," *Elementary School Journal*, XLI (September, 1940), pp. 19-27.

[3] Fowler, B. P. "Appraisal of the Eight-Year Study," *Educational Record*, XXII (January, 1941), Supplement No. 14, pp. 106-21.

To get a record of the pupil behavior which indicates attainment of the objective, which is the third step in the appraisal, a great variety of schemes has been developed. Since dissatisfaction with testing only for information and skill became acute, progress has been made toward more adequate systems of evaluation that take into account the educational objectives considered important. For new objectives, there now are many new techniques and devices of appraisal.

Observation, for example, now supplements tests. It can be made systematic and objective by means of a *code*. By this device the observer is supplied with a list of the types of conduct he is to note, together with a list of the children to be studied. When a given type of behavior, say, acting co-operatively, is observed, a record is made of children who so behaved. By counting up the number of manifestations of this behavior, it is possible to get records by which groups of children or types of behavior can be compared.[4] Successful use of such a scale presupposes, of course, careful explanation so that the terms are uniformly employed by all scorers, and facility in observation and record making is acquired through practice. Such codes have been found to be workable; that is, the experienced scorers have agreed with each other regarding the groups observed. In this sense the technique is objective.

Quantitative records of this type can be supplemented by others which are qualitative. Here instead of concerning himself with the number of times a certain kind of behavior is observed, the investigator secures descriptions of certain behavior. If co-operativeness were again being considered, the teacher would record manifestation of such behavior. Thus he might note that on Monday a certain boy brought some clippings on the topic his group was studying; on Tuesday he offered to serve on a committee; on Wednesday he volunteered to interview a man having special knowledge of the subject. When anecdotal records, as they are called, are studied and compared with the quantitative records obtained by observing the same groups, they check reasonably well with each other.

Information regarding individuals can also be obtained through questionnaires. If those asking the questions have confidence in those answering the questions, much can be learned that is not likely to be revealed otherwise. Well-phrased questions

[4] Wrightstone, J. W. "Constructing an Observational Technique," *Teachers College Record*, XXXVII (November, 1951), pp. 1-9.

will make evident possibilities and furnish hypotheses which can be checked in other ways.

Observation and questionnaire are naturally supplemented by interviews. The virtues of the old-fashioned oral examination can be revived here, but the helpful kind of interview is much less of a cross-questioning than of an exchange of ideas and the exploration of trends. The skillful interlocutor can bring out information not easily transmitted in writing, and can direct the conversation to reveal ideas that lie behind what has been written.

Records of a pupil's extra-curricular activities will reveal trends in his development. Freely chosen activities may indicate not only his interests but his special abilities since an individual prefers to engage in activities in which he has some degree of success. For the school itself, they may indicate the outcomes of programs designed to broaden the children's interests and to start them toward richer and more gratifying living.

Rather than depending entirely upon mere lists of activities or verbal descriptions of them, it is sometimes possible to register portions of such activities by means of mechanical devices. By the use of recordings the accomplishment of a choir, a dramatic production, or a group discussion may become a permanent record. Such media may often give more accurate accounts of what actually transpired than the most careful verbal descriptions, not to speak of that imagined record of accomplishment known as a mark or grade.

In creative endeavor, the most valuable type of appraisal, where reasonable freedom has been given, lies, of course, in examination of the objects constructed, the stories and poems written, the pictures drawn, and the music composed. If a large enough number of cases is considered, appraisals of teaching success are possible. Records of this sort can hardly be contrasted too sharply with those made on the basis of tests of knowledge about the subject taught.

The fourth step in evaluation—following the formulation of objectives, their reduction to behavioral terms, and records of the behavior—was named by Mr. Tyler and his collaborators the interpretation of the records. This means finding how efficient a school is in attaining its own chosen goals and how by so doing its efficiency may be increased. It means comparing the degree of its success in some of its undertakings with the degree of success in other schools, looking for causes of disparities, and

working out possible ways of strengthening the school where improvement is most needed.

WHEN J. W. Wrightstone undertook to determine the relative effectiveness of progressive and essentialist education in certain schools, he evidently accepted the list of common objectives adopted by certain state-wide organizations of teachers. From these objectives he selected a manageable number whose attainment promised to be discernible. These were the abilities to understand and practice desirable social relationships, to discover and develop individual aptitudes, to cultivate powers of critical thinking, to appreciate worth-while activities, to gain command of common integrating knowledges and skills, and to build sound physical and mental health. For each of these objectives, he worked out methods of appraisal. Understanding social relationships, for example, he measured in part by a paper-and-pencil test dealing with current events. Practicing desirable social relationships he appraised by controlled observation, employing the code-and-diary technique. For each of the other objectives he designed appropriate evaluation techniques. He then interpreted the scores secured in terms of their significance for the original problem, the comparative competence of the two contrasted types of schools to reach the objectives to which both had agreed. When the school authorities of New York decided upon a city-wide experiment with the activity program, they adopted almost the same scheme of evaluation.[5]

Perhaps the most carefully controlled attempt at large-scale evaluation is that of the directors of the Eight-Year Study appointed by the Commission on the Relation of School to College of the Progressive Education Association. They spent many months in conferring with the teachers in the thirty experimental schools and in helping them to make a definite and consistent formulation of their objectives. They stated these objectives in terms which permitted their attainment to be registered in pupil behavior. The list is included in the section of the report entitled "The Method of Evaluation." To ascertain the degree to which these abilities were developed in the students of the experimental and traditional schools, they devised certain scales which they used as a supplement to the information gathered from a study

[5] *See* "An Evaluation of Aspects of the Activity Program in the New York City Public Schools," by Arthur T. Jersild, Robert L. Thorndike, Bernard Goldman, and John J. Loftus, *Journal of Experimental Education*, VIII (December, 1939), pp. 166-207.

of the college records of the students. They interpreted the scores obtained to determine the relative success of the two types of schools in reaching the objectives they held in common.

EVALUATION of a school in terms other than or in addition to the changes made in pupils is illustrated in the *General Report* of the Cooperative Study of Secondary School Standards.[6] Here an appraisal is made, by means of carefully devised check lists, of such characteristics of a school as type of curriculum, pupil activity, library reading, guidance work, instruction, preparation and ability of teachers, administration, and adequacy of physical plant. Account is also taken of the success of pupils in college and vocation and the judgment passed on the school as a whole by both pupils and parents. The *Sixteenth Yearbook* of the Department of Elementary School Principals of the National Education Association attempts to apply somewhat similar standards of evaluation to the elementary school.[7]

Problems of communication involved in reporting the results of the evaluation of pupils, teachers, and parents, and in devising the requisite record systems and report cards naturally follow from the development of better techniques of evaluation. A committee of the National Education Association appointed to visit and observe schools in all parts of the United States has reported how these problems are dealt with in some of the best of American schools. These plans for recording and reporting the results of attempts at evaluation are too detailed to be described here, but they merit careful examination.[8] After a study of methods of evaluation in use in ninety of the most progressive of American high schools, the committee summarized the principles of sound evaluation as follows:

> Evaluation requires definite goals. The first step in a program of education is to answer the question: What kind of citizen does American democracy require? This determined, the appropriate methods of instruction and measures of progress in that instruction can be worked out.

[*Continued on page 155*]

[6] Cooperative Study of Secondary School Standards. *Evaluation of Secondary Schools, General Report.* For a brief account, see *How to Evaluate a Secondary School,* (1940) Washington, D.C.: Cooperative Study of Secondary School Standards.

[7] *See also* "Appraising the Elementary-School Program," *National Elementary School Principal,* XVI (July, 1937), pp. 227-55.

[8] *See* Educational Policies Commission. *Learning the Ways of Democracy.* Washington, D.C.: National Education Association, 1940. Chap. 13.

Investigations of Teacher Supply and Demand Reported in 1956

By MARGARET A. VESEY and EARL W. ANDERSON

In 1956 it was in the elementary and the secondary schools that concern for qualified personnel centered. There was, however, an increasing interest in the solution of the situation facing the colleges and universities. Ray C. Maul mentions six good signs in the public-school situation: the national economy is at an all-time high; the man-power pool of youth reaching maturity is now at the point of expansion after ten years of decline; college enrollments are in an uptrend; the proportion of women in the total college enrollment has been steadily increasing during the past five years—women comprise three-fourths of the elementary- and secondary-school staffs; since 1948 there has been a steady increase in the percentage of all college graduates who were prepared to teach and in the percentage of undergraduate students enrolled in teacher preparation; and the standards for admission to teaching are being improved in many of the states (74).

In advanced estimates the Research Division of the National Education Association showed the following significant changes in the nation's public schools for 1956-57 when compared with 1955-56: an *increase* of 1,197,000 in enrollments in public elementary and secondary schools; an *increase* of fifty-five thousand in instructional staff; insufficient increase in the enrollment in teacher-education institutions to fill the need for qualified teachers; and as in previous years, the employment by school districts of approximately eighty thousand teachers who are not fully qualified for standard certificates (73).

In the N.E.A. Research Division's Ninth Annual Study of Teacher Supply and Demand in the United States—conducted by Ray C. Maul—the sources of supply of teachers are classified as the current graduating class, former teachers, qualified graduates of former years who did not enter teaching after graduation, college graduates with no or little professional preparation, and others whose qualifications are in various stages of adequacy (74). In this report and in shorter articles and summaries, the statistics of the supply are given. The college graduating class in 1956 provided 38,731 potential elementary-school teachers and 57,348 junior- and senior-high school teachers

—increases over those of 1955 of 2.7 per cent and 15.4 per cent, respectively. Approximately two-thirds of the graduates actually entered teaching. There was a maldistribution of the total supply among the fields and subjects to be taught. Greatest increases in supply were in business education, mathematics, and the science fields (26, 29, 74, 86, 98).

The Ninth Annual Report stated a realistic demand for one hundred and seventy-five thousand qualified teachers in the elementary and secondary schools. As indicated in the preceding paragraph, the total number of college graduates who were qualified was 96,079. If all entered teaching, the shortage would still be eighty thousand (74). The greatest shortage was in the rural elementary schools (21). Armstrong predicted that this teacher depression should begin to ease by 1965 (4).

Maul in a look at the supply and demand of college teachers declared that the staffing of colleges with competent teaching personnel was not one of numbers only but a need to know how demands will be distributed among the general teaching fields, from what sources new college teachers are likely to come, and how they will be prepared (61). The present flood of students to college campuses is not a temporary affair. Clark, Horn, Christian, Scates, and Wahlquist clearly stated the implications of the situation which predicts that from 50 to 70 per cent of the college-age group will attend college in 1970. The present comparable percentage is 30 (14, 16, 39, 84, 101).

The present college staffs, according to Maul, are 78 per cent men, in their forties, 40 per cent of whom hold Doctors' degrees and 20 per cent have work beyond the Master's degree. Almost one-half of the new college teachers during the past two years have come from graduate schools. One in five came from other educational institutions. Currently, there is an acute shortage of college teachers in physical science, mathematics, and education—in that order (58, 59). Clark wonders where the college teachers will come from

> . . . needed at the rate of 17,000 new teachers a year even now and at the rate of 20-40,000 a year by the 1960's, to allow for replacements and added staff for the doubling enrollment? This means recruiting more than three new teachers for every two teaching today. . . . The social irony of the situation is that just when we need a larger pool of graduate-school age students to go on to higher degrees and teaching, we are in the trough of the supply,

> for the late 1950's are the years when the great drop in the birth rate of "depression babies" is reflected in the decline of students graduating from college. . . . The United States Department of Education predicts that for the next ten years the number of Ph.D.'s will decrease, not increase, if the present rate continues.
>
> . . . . . .
>
> We must increase the number of Ph.D.'s, . . . and . . . the percentage of new Ph.D.'s who enter the field of college teaching (16).

With a student body of six million in 1975, college officials foresee the greatest future expansion in the fields of English, physical science, social science, mathematics, and education (66).

THE foregoing paragraphs only highlight certain facts in regard to the general situation in teacher supply and demand. Specific research studies and reports cover conditions in various regions—Montana, New Jersey, Ohio, and Pennsylvania—to mention a few.

Goetch listed his predictions of the teacher supply and demand by regions—Western, Central, Eastern, and Southern states, and territorial possessions. For the majority of these regions he forecast an under-supply of elementary-school and secondary-school teachers (of the academic subjects) and a critical shortage of teachers in the highly specialized fields (32).

Winans reported for the New Jersey State Department of Education. Using projected pupil enrollments as a base, he estimated an annual need of forty-two hundred teachers for each of the next eight years. The early 1960's will be the most difficult years because of the great waves of enrollment at all levels. For the school year ending September, 1955, the number of teachers in New Jersey increased 6 per cent. Also, the number of teachers employed increased more rapidly than the number of pupils enrolled. Three-fourths of the new teachers were assigned to the elementary grades. English, mathematics, and general-science teachers were in demand (105).

Stafford reported the results of questionnaires sent to institutions of higher learning in Pennsylvania which are legally authorized to educate teachers. Teachers' colleges graduate a larger number of teachers per year than do other institutions. About 34 per cent of the graduates did not take positions in Pennsylvania. Four-fifths of the institutions of higher education indicated that the teacher supply was critically inadequate (88).

The teacher-training institutions in Montana supplied one-third of the total demand for elementary-school teachers and approximately one-half for high-school teachers. Twenty-six per cent of the teacher graduates left Montana, possibly because of the more attractive salaries in the Western coastal states (36).

Kercheval reported a 20-per cent decrease from the previous year in the number of new science teachers prepared in Iowa. He also estimated a 45-per cent loss from the profession of the recently qualified science teachers (49). In New England about six thousand pupils were denied an industrial-arts education because of the dire shortage of teachers (107).

Bowers said that Ohio had the best-qualified teachers ever employed according to their semester-hours of preparation. Only 8 per cent of the teachers in the elementary schools held temporary certificates. Ohio colleges supplied twelve hundred more teachers than during the previous year (10, 77).

Reynard and others at Ohio State University reported a severe shortage of educational personnel. If each beginning teacher had been free to go to any locality, he could have investigated 32 job vacancies. The total number of teacher graduates was on the increase. The largest number of requests were for elementary-school teachers. Demands for secondary-school and special-field teachers were heaviest in English, music, science, and mathematics (82).

Deputation members of the Glasgow Educational Committee and the Glasgow Local Association of the Education Institute of Scotland reminded the Minister of State for Scotland that after emergency arrangements had been made, there was still a shortage of 253 teachers and this would rise to almost one thousand during the next five years. In reply, the Minister reported an 8-per cent increase in the number of teachers in Scotland during the 1950-55 period. And, in Scotland there were almost 20 per cent more certificated teachers than before the war (96).

THE demand for college teachers is no longer static. The Office of Teacher Placement at the University of Illinois recorded an increase of 40 per cent over the previous year in openings for college teachers (22). Teaching vacancies in colleges increased for the first time since 1948 according to the University of Pennsylvania Placement Service. This office reported that the demand for teachers of English and business subjects had virtually doubled among colleges and universities (23).

The Office of Education has delegated a major research project to the Division of Higher Education which concentrates on teachers in the public elementary and secondary schools and which purports:

1. To accomplish fundamental operational planning in anticipation that funds will be made available for a major research effort in teacher personnel for the fiscal year.
2. To establish a national advisory committee for the pilot study and to enlist the interest and support of other experts, technical specialists, and educational authorities for policy guidance in this research project.
3. To develop procedures and instruments to be used in the research project in the fiscal year 1957, and to try them out as far as time, money, and staff permit (86).

An investigation of the literature published in 1956 indicates that many authors continue to mention the reasons for the grave shortage of teachers. Briefly, here is a synthesis of their statements:

The American public has failed to provide the financial support needed to pay teachers adequate salaries (31, 52, 55, 64, 74, 88, 92).

The annual birth rate has been in a sensational increase since 1940 (40, 52, 54, 55, 64).

For the past ten years the number of youth attaining maturity (eighteen to twenty-one) has decreased (4, 64, 74, 92, 105).

A new concept of the man-power demands of national defense in peacetime has been accepted (4, 64, 74, 92, 105).

The growth and diversification of industry, commerce, business administration, government programs, and professional services have given rise to a greater competition for college-trained personnel than has been produced (4, 40, 55, 64, 74, 92).

Occupational opportunities for educated women have expanded greatly (55, 64, 74, 92).

The trend for earlier marriages has increased (64, 74, 92).

The current "attacks" on the schools have affected the prestige of the teaching profession (92).

Certification requirements and teacher-education curriculums have become highly specialized (4, 34).

Teacher-education curriculums have met stiffer competition on college campuses (4).

Many investigators made suggestions for the improvement of the situation. Their recommendations which follow are not in order of importance:

1. Teaching, as an occupation, must be put on a competitive level commensurate with its requirements (12, 13, 34, 41, 74, 90).
2. A large number of the most capable youth must be identified and encouraged to prepare themselves for teaching. Teachers themselves must become "recruitment-minded." (10, 12, 14, 18, 27, 35, 37, 40, 41, 74, 77, 92, 105).
3. Teacher-education curriculums must be continuously strengthened (12, 13, 35, 41, 64, 74, 92, 99, 105).
4. More realistic appeal must be made to the liberal-arts and other college graduates who did not take undergraduate preparation for teaching (10, 12, 28, 50, 64, 74, 105).
5. The standards for admission to teaching should be improved (12, 48, 64, 74, 89, 105).
6. Teacher-education institutions must have the resources, physical facilities, equipment, and teaching staffs equal to those of other types of colleges and universities (64, 87).
7. Stronger appeal should be made to the college graduates who are prepared to teach (10, 12, 41, 64, 92).
8. A much greater financial incentive for teaching must be provided (12, 13, 14, 27, 33, 37, 41, 90, 91, 92, 104, 106).
9. The teaching profession must increase its holding power (10, 18, 77, 92).
10. More effective use must be made of competent teachers' abilities and services. Experimentation leading to a more effective utilization of teaching personnel is desirable (2, 18, 85, 92).
11. Teacher benefits and conditions of service should be increased and improved (10, 14, 27, 105).
12. Fellowships and scholarships should be provided to help able students to undertake college preparation at both the undergraduate and graduate levels (12, 14).
13. Ways—educational television and student or teacher aides—should be explored for reaching more students with the superior teachers now available (12, 14, 20, 33, 34, 46, 83, 91, 106).
14. The profession of teaching should be presented dramatically and positively to the general public through the everyday actions of teachers and through media of mass communication (51, 89, 106).

BIBLIOGRAPHY

1. American Council on Education. *Expanding Resources for College Teaching*. Washington, D.C.: The Council, 1956.
2. "America's Losing Battle: Crisis in Staffing," *London Times Educational Supplement*, MMCXLI (June 1, 1956), p. 753.
3. Anderson, Earl W.; Vesey, Margaret A.; and Rayburn, Charles M. "Investigations of Teacher Supply and Demand Reported in 1955," *Educational Research Bulletin*, XXXV (May 9, 1956), pp. 124-32, 140.
4. Armstrong, W. E. "Supply and Quality of Teachers," *School Executive*, LXXV (January, 1956), pp. 60-62.
5. Auer, J. J. "Increasing and Using the Supply of Teachers of Speech," *Quarterly Journal of Speech*, XLII (October, 1956), pp. 295-97.
6. "Baits for Birmingham Teachers," *Economist*, CLXXX (July 7, 1956), p. 23.
7. Bartels, M. H. "Demand for Teachers in Science and Related Fields," *School Science and Mathematics*, LVI (December, 1956), pp. 711-15.
8. Basil, Sister Mary. "For This I Am a Teacher," *Catholic School Journal*, LVI (January, 1956), p. 16.
9. Boutwell, W. D. "What's Happening in Education?" *National Parent-Teacher*, LI (December, 1956), pp. 11-12.
10. Bowers, Harold J. *The Certification, Preparation and Experience of Elementary Teachers in Ohio*. Columbus: Division of Teacher Education and Certification, State Department of Education, 1956. 12 pp.
11. "British Teachers Needed for British Columbian Secondary Schools," *London Times Educational Supplement*, MMCXXIII (January 27, 1956), p. 96.
12. California Congress of Parents and Teachers, Incorporated. *How We Can Get Enough Good Teachers—and Keep Them: Report of the 1956 California Series of Recruitment Clinics*. Los Angeles: The Congress, 1956. 31 pp.
13. California Council on Teacher Education. *Minutes and Proceedings of the Santa Barbara Conference*, April 5-7, 1956. Sacramento: The Council, 1956. 57 pp.
14. Christian, J. "Planning for the Future in Higher Education," *Journal of Home Economics*, XLVIII (January, 1956), pp. 47-48.
15. "City in Trouble," *London Times Educational Supplement*, MMCXLV (June 29, 1956), p. 891.
16. Clark, E. A. "Who Will Teach the Teachers?" *Journal of American Association of University Women*, XLIX (May, 1956), pp. 203-206.
17. Collison, P. "Qualifications of Academics," *Universities Quarterly*, X (May, 1956), pp. 273-82.
18. Conley, W. H. "Planning for Future Faculty Needs," *National Catholic Educational Association Bulletin*, LIII (August, 1956), pp. 131-34.
19. "Crisis in Birmingham: Chief Officer's View," *London Times Educational Supplement*, MMCLI (August 10, 1956), p. 1,020.

20. "Crisis in the Classroom," *Commonweal*, LXV (October 5, 1956), pp. 3 ff.
21. Danielson, L. K. "Teachers for Rural Children," *Journal of National Education Association*, XLV (January, 1956), p. 39.
22. "Demand for College Teachers," *Higher Education*, XII (January, 1956), p. 83.
23. "Demand for College Teachers," *School and Society*, LXXXIV (July 7, 1956), p. 13.
24. "Dispatches from the Field: Supply of Teachers," *London Times Educational Supplement*, MMCLVIII (September 28, 1956), p. 1,167.
25. "Distribution of Teachers: Voluntary Rationing Proposed," *London Times Educational Supplement*, MMCLXII (October 26, 1956), p. 1,280.
26. Exton, E. "Getting Quality Teachers," *American School Board Journal*, CXXXII, No. 2 (February, 1956), pp. 56-58.
27. Ficken, Clarence E. "Opportunities in College Teaching," *Journal of Higher Education*, XXVII (May, 1956), pp. 266-73, 289.
28. "For Teaching Teachers," *Newsweek*, XLVIII (September 3, 1956), p. 54.
29. Freeman, R. A. "Shifting Pattern of Responsibility," *Vital Speeches*, XXII (June 15, 1956), pp. 522-26.
30. Fund for the Advancement of Education. "Teachers for Tomorrow?" *Michigan Education Journal*, XXXIII (February, 1956), pp. 266-69.
31. Garwood, J. D. "Plenty of Teachers at a Price," *School Executive*, LXXV (February, 1956), pp. 58-59. Same condensed in *Education Digest*, XXI (April, 1956), pp. 16-17.
32. Goetch, E. W. "Supply and Demand Predictions," *Midland Schools*, LXX (April, 1956), p. 34.
33. Gorman, B. W. "Personnel Policies and the Teacher Shortage," *American School Board Journal*, CXXXII, No. 4 (April, 1956), pp. 34-36.
34. Handlin, O. "Crisis in Teaching," *Atlantic Monthly*, CXCVIII (September, 1956), pp. 33-37. Excerpts in *Time*, LXVIII (September 3, 1956), p. 50. Discussion in *Atlantic Monthly*, CXCVIII (November, 1956), pp. 31-33.
35. Henry, D. D. "Where Do We Get the Teachers?" *American Journal of Physics*, XXIV (May, 1956), pp. 322-28.
36. "Higher Education," *Montana Education*, XXXII (April, 1956), pp. 6-7+.
37. Hite, Mary Eva. "Who Will Teach in the Decade Ahead?" *Delta Kappa Gamma Bulletin*, XXI (Winter, 1956), pp. 25-28.
38. Hobby, B. F. "Birmingham Shortage," *London Times Educational Supplement*, MMCXLVII (July 13, 1956), p. 938.
39. Horn, F. H. "Opportunities for Expansion of College Services," *College and University*, XXXI (February, 1956), pp. 159-80.
40. Horn, F. H. "Problems Facing Higher Education," *Teachers College Record*, LVII (March, 1956), pp. 360-70.
41. "How Can We Get Enough Good Teachers, and Keep Them?"

a report to the White House Conference on Education, Washington, D.C., December 1, 1955), *Understanding the Child*, XXV (January, 1956), pp. 17-18. Same in *Parents Magazine*, XXXI (February, 1956), pp. 36-37. Same condensed in *Education Digest*, XXI (March, 1956), pp. 15-17; and *Montana Education*, XXXII (April, 1956), p. 11.

42. *How Does Indiana Rank in Teacher Supply and Demand?* Indianapolis: Division of Research, Indiana Department of Public Instruction, 1956. 4 pp. (Research Brief No. 12).
43. HUBBARD, F. W. "From Whence Cometh Our Strength," *Montana Education*, XXXIII (November, 1956), p. 9+.
44. HAAC, O. A. "Saving Faculty Time," *Modern Language Journal*, XL (November, 1956), pp. 401-403.
45. IFFERT, R. E. "Staffing Institutions of Higher Education in the Next Decade," *Higher Education*, XIII (December, 1956), pp. 66-68.
46. "Industry Should Supply Science Teachers," *Science News Letter*, LXVIII (March 3, 1956), p. 136.
47. "Jobs Galore, at Four-to-One," *Texas Outlook*, XL (August, 1956), pp. 10-11.
48. KELLER, H. A. "Greeting to Teachers," *Journal of the National Education Association*, XLV (February, 1956), p. 73.
49. KERCHEVAL, J. W. "Iowa's Science-Teacher Problem," *Midland Schools*, LXX (April, 1956), p. 10+.
50. LAKE, A. "Look Who's Teaching School: College-Educated Housewives," *Saturday Evening Post*, CCXXVIII (March 31, 1956), pp. 38-39+.
51. LAWRENCE, N. R. "Business Teachers to the Rescue!" *Balance Sheet*, XXXVII (March, 1956), pp. 292-93+.
52. LA ZERTE, M. E. "Wanted: 50,000 Teachers," *A.T.A. Magazine* [Alberta], XXXVI (January, 1956), pp. 12-14.
53. LELAND, S. E. "Problem of Numbers in Higher Education: from the Standpoint of Private Institutions," *College and University*, XXXI, No. 3 (1956), pp. 276-90.
54. LEVIT, B. W. "Blight on the Teacher Crop," *American School Board Journal*, CXXXIII, No. 3 (September, 1956), pp. 31-33.
55. "Little Man Who Isn't There," *Design*, LVIII (September, 1956), p. 7.
56. MCCAUL, R. L. "Happy Profession?" *Elementary School Journal*, LVI (January, 1956), pp. 195-200.
57. "Maldistribution," *London Times Educational Supplement*, MMCLVI (September 14, 1956), p. 1,117. Reply by HOBBY, B. F., *London Times Educational Supplement*, MMCLVII (September 21, 1956), p. 1,144.
58. MAUL, R. C. "College Teacher Supply and Demand: a Changing Pattern," *Educational Forum*, XXI (November, 1956), pp. 55-61.
59. MAUL, R. C. "Colleges, Too, Will Need More Teachers," *Journal of National Education Association*, XLV (January, 1956), pp. 47-48.
60. MAUL, R. C. "Is the Science Teacher Shortage a Curriculum Factor?" *Science Teacher*, XXIII (May, 1956), pp. 181-83.
61. MAUL, R. C. "A Look at the College Teacher Supply and Demand Problem," *College and University*, XXXI (April, 1956), pp. 269-75.

62. MAUL, R. C. "New Factors to Consider in the Supply of Business Education Teachers," *Business Education Forum*, XI (October, 1956), pp. 30-31.
63. MAUL, R. C. "Our Critical Need for Teachers," *Journal of Health-Physical Education-Recreation*, XXVII (October, 1956), pp. 29-30.
64. MAUL, R. C. "Realistic Look at Teacher Supply and Demand," *American School Board Journal*, CXXXII, No. 2 (February, 1956), pp. 25-27
65. MAUL, R. C. "Teacher Shortage Trend Is Reversed," *Nation's Schools*, LVII (May, 1956), pp. 51-53.
66. MAUL, R. C. "Toward Recruiting College Teachers," *Journal of Higher Education*, XXVII (April, 1956), pp. 189-93, 231.
67. MEGEL, C. J. "Gimmicks Won't End the Teacher Shortage," *American Federationist*, LXIII (June, 1956), pp. 19-21.
68. "Merthyr Defies the Minister: A Glut of Young Teachers," *London Times Educational Supplement*, MMCLXI (October 19, 1956), p. 1,255.
69. METZ, J. J. "Shortage of Engineers and Teachers," *Industrial Arts and Vocational Education*, XLV (December, 1956), p. 326.
70. MILLER, O. C. *Democratic Way to Better Schools*. New York: Exposition Press, 1956. 210 pp.
71. MILLER, E. O. "Professors and the Impending Crisis," *Association of American Colleges Bulletin*, XLII (May, 1956), pp. 282-87.
72. MORSE, A. D. "Bay City Beats the Teacher Shortage," *Reader's Digest*, LXVIII (February, 1956), pp. 38-40.
73. NATIONAL EDUCATION ASSOCIATION, RESEARCH DIVISION. *Advance Estimates of Public Elementary and Secondary Schools for the School Year, 1956-57*. Washington, D.C.: The Association, 1956. 23 pp.
74. NATIONAL EDUCATION ASSOCIATION, RESEARCH DIVISION. "1956 Teacher Supply and Demand Report," *Journal of Teacher Education*, VII (March, 1956), pp. 33-79.
75. "No Panic at Buxton," *London Times Educational Supplement*, MMCXCVII (October 5, 1956), p. 1,197.
76. "1 3/4 (One and three-fourths) Million: Enrollment Increase for 1956-57," *School Life*, XXXIX (October, 1956), pp. 6-7.
77. "Outlook on Teacher Supply and Demand," *Ohio Schools*, XXXIV (March, 1956), p. 18.
78. PENNSYLVANIA DEPARTMENT OF PUBLIC INSTRUCTION. *Pennsylvania Studies Its Teacher Supply and Demand*. Harrisburg: The Department, 1956. 37 pp.
79. PHILLIPS, B. N. *Teacher Supply and Demand in Indiana in 1955-1956*. Indianapolis: Indiana Department of Public Instruction, Division of Research, 1956. 6 pp. (Research Brief No. 10).
80. "Plans for Action," *London Times Educational Supplement*, MMCLXII (October 26, 1956), p. 2,181.
81. RESTON, J .B. "School Crisis Question and Answer," *Scholastic*, LXVII (January 19, 1956), p. 1+.
82. REYNARD, H. E.; VESEY, MARGARET; and BROWN, HAZEL. "Teaching Opportunities in 1955," *Educational Research Bulletin*, XXXV (January 11, 1956), pp. 1-9+.

83. SARGENT, C. G. "Responsibility of School Design," *School Executive*, LXXVI (December, 1956), pp. 50-52.
84. SCATES, D. E. "Prior Meaning of Increases in Teaching Staffs," *Journal of Teacher Education*, VII (March, 1956), pp. 82-88.
85. SCHOOLING, H. W. "No Simple Solution to Manpower Problem," *School Review*, LXIV (January, 1956), pp. 7-8.
86. "Staffing Our Schools and Colleges: Progress Report on a Research Project," *School Life*, XXXVIII (June, 1956), p. 13.
87. STAFFORD, D. F. "Teacher Education and the Teacher Shortage," *Pennsylvania School Journal*, CV, No. 2 (October, 1956), pp. 58-60.
88. STAFFORD, D. F. "Teacher Supply and Demand in Pennsylvania," *Pennsylvania School Journal*, CIV, No. 5 (January, 1956), pp. 180-81.
89. STEPHENSON, H. H. "Raise Standards to Recruit Teachers," *Phi Delta Kappan*, XXXVII (March, 1956), pp. 267-68.
90. STILES, L. J. "Security Isn't Enough," *Nation's Schools*, LVIII (December, 1956), pp. 43-44.
91. STONE, G. K. "How To Solve the Teacher Shortage," *American School Board Journal*, CXXXII, No. 2 (February, 1956), pp. 61-62.
92. STONE, JAMES C. *Teachers for Tomorrow's Children: a Study of the Supply of and Demand for Certificated Personnel in California Public Schools*, 1955-56. Sacramento: California State Department of Education, 1956. 46 pp. (Bulletin No. 15).
93. "Strength to Meet Our National Need," *"Higher Education*, XII (April, 1956), pp. 130-31+.
94. "Supply of Teachers," *London Times Educational Supplement*, MMCLXI (October 19, 1956), p. 1,251.
95. "Teacher Shortage: Birmingham Crisis," *London Times Educational Supplement*, MMCXLVI (July 6, 1956), p. 916.
96. "Teacher Shortage in Glasgow," *London Times Educational Supplement*, MMCXXXI (March 23, 1956), p. 377.
97. "Teacher Supply and Demand," *Wisconsin Journal of Education*, LXXXVIII (January, 1956), pp. 8-12.
98. "Teacher Supply and Demand, 1956 Report," *Wyoming Education News*, XXII (May, 1956), pp. 9, 23.
99. THEOPHANE, SISTER MARY and RASOR, ARLENE. "Good Teaching as Seen by Junior High School Pupils," *School Review*, LXIV (February, 1956), pp. 72-75.
100. THIESMEYER, L. R. "Men, Machinery, and Money; Growing Shortage of Trained Men and Educators," *Pulp and Paper Magazine of Canada*, LVII (August, 1956), pp. 105-109.
101. WAHLQUIST, J. T. "Calling New College Teachers," *Educational Forum*, XX (January, 1956), pp. 215-18.
102. "Whip and Carrot: Emergency Staffing Methods," *London Times Educational Supplement*, MMCLVI (September 14, 1956), p. 1,116.
103. WHITELAW, J. B. "Shortage of What?" *School Life*, XXXVIII (June, 1956), p. 2.
104. "Who Says Teacher Shortage?" *Changing Times*, X (September, 1956), pp. 41-42. Same in *Education Digest*, XXII (November, 1956), pp. 34-35.

105. WINANS, S. DAVID. *Teacher Supply and Demand*, 1955-56. Trenton: Bureau of Research, New Jersey Department of Education, 1956. 28 pp. (Report No. 124).
106. WORMALD, F. L. "How Is the Supply of Able College Teachers Being Increased?" *Educational Record*, XXXVII (January, 1956), pp. 66-68.
107. YANKEE, H. W. "Wanted: Industrial Arts Teachers," *School Executive*, LXXV (May, 1956), pp. 77-79.

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Evaluation: a Reappraisal

[*Continued from page 143*]

Although evaluation should be as objective as possible, it should not be restricted to objective instruments. If this is done we are in danger of allowing our goals to be controlled by the availability of instruments. Since even the results secured by such instruments must have their significance and implications determined by human judgment, it is sensible to recognize that complete objectivity in evaluation is never possible.

Evaluation should be democratic in the sense that its purposes should be understood and accepted by all persons concerned in it. The methods by which it is to be carried on, however, should be settled upon only with the assistance of experts in the technical phases of evaluation.

In order that the process of evaluation shall be not only a revelation of status but itself a process of education, it should be arranged wherever possible that those who are to be evaluated should share in developing the means and processes of evaluation. "The citizens of a democracy need to understand the means by which they can estimate progress toward social objectives, and this they can best learn through practice."[9]

Evaluation is concerned with growth. Pupils should be shown, when results are interpreted to them, their own development in understanding and behavior, rather than their comparative standing in relation to other pupils.

High standards may rightfully be insisted upon in a democracy. Individual efficiency is even more essential under the democratic than under other ways of life.

Research in the perfecting of instruments for evaluating achievement should be continuous. Such research requires both technical knowledge of the construction of instruments of objectivity and reliability and also an understanding of the purpose of democratic education.

[Vol. XXXVI, No. 4]

[9] Statement by the Commission on the Relation of School to College of the Progressive Education Association.

The College of Education Looks to the Future

THE College of Education of Ohio State University this year is celebrating the fiftieth anniversary of its establishment. The University of which it is a part was undergoing its early development during the period when the professional education of teachers, especially secondary-school teachers, on a university rather than a normal-school level was developing in the Midwest. The Ohio Agricultural and Mechanical College was opened for students in 1873, the year that the State University of Iowa established the first permanent chair of pedagogy in the United States. Iowa was followed by Michigan in 1879, Wisconsin in 1885, and Indiana in 1886. It is not surprising, therefore, that the new Ohio institution, which in 1878 was renamed The Ohio State University, should enter the field of teacher education.

It did so, however, only after repeated urging by its presidents —three of the first five advocated this action.[1] A beginning was made in 1895, when a Department of Pedagogy, later renamed the Department of Education, was organized. President William Oxley Thompson, who took office in 1899, believed that the University still was not meeting its responsibility in the field. Accordingly, in 1901, 1902, and 1905, he recommended to the Board of Trustees the establishment of a teachers' college.

On April 18, 1907, the Board, by a vote of five to one, approved the recommendation of President Thompson that a teachers' college be established, and elected W. W. Boyd as dean. This is the official birth date of the College of Education. Just when the name was changed to College of Education is not known. The first meeting of the College faculty was held on June 4, 1907; thirteen persons were present, including President Thompson. Eighteen students were enrolled the first year. The College offered courses for high-school teachers only.

The College grew slowly at first. The enrollment did not reach one hundred until 1911, and by 1920 it was only 463. The great period of growth in size, in scope of offerings and services,

[1] The facts presented in this and the following paragraphs are drawn largely from "A History of the College of Education of The Ohio State University," by H. G. Good, Professor Emeritus of Education. This history has been prepared as a part of the fiftieth-anniversary celebration. The present writer gratefully acknowledges his indebtedness to Mr. Good for permission to use his manuscript.

and in prestige began with the appointment of George F. Arps as dean in 1920. Mr. Arps was an administrator of broad vision and great vigor. Under his leadership, outstanding men were added to the faculty, the curriculum was expanded, and new types of services were undertaken. In 1921, the Bureau of Educational Research was organized and in 1923 a curriculum for elementary-school teachers was introduced. From 1921 to 1933, annual educational conferences were held, which offered outstanding speakers and were attended by thousands. In 1926, the first unit of a new College of Education building (later named Arps Hall) was occupied. In 1929, the Bureau of Special Education (now the Bureau of Special and Adult Education) was organized. The following year, an experimental elementary school was opened, and in 1932, on completion of its new building, the present University School of twelve grades was established. These are just a few of the high points in the development of the College under Dean Arps. Long before the close of his administration in 1937, the College was recognized as one of the nation's leading institutions for the education of teachers and educational workers and the study of educational problems.

Space is lacking here to trace, even in outline, the growth of the College in size or the development of its program of teaching, research, and service. Today the College has a faculty of some 285 persons holding the rank of instructor or higher and working in eight schools, departments, and bureaus; a total teaching staff of nearly four hundred; and an enrollment of about thirty-five hundred students. Its program includes dozens of curriculums for the preparation of teachers and other educational workers; its research and service activities are known from coast to coast.

More important than the size of the College and the scope of its program is the quality of its work. The half-century of the College's life has seen a transformation of educational theory and practice in general and of teacher education in particular. This transformation has taken place largely under the influence of the scientific movement in education and the progressive-education movement. Both of these developments came almost entirely within the past fifty years. In 1907, there was very little that could be called educational research as we use the term today. J. M. Rice had initiated his work on spelling

in 1897 but had met with overwhelming opposition. His *Scientific Management in Education* did not appear until 1912. While certain forerunners of the progressive-education movement, such as Francis W. Parker, had been active before 1907, the movement itself was in the future. John Dewey had carried on his educational experiments at the University of Chicago, but his *How We Think* did not appear until 1910 or his *The School and Society* until 1915.

In the revolutionary educational developments that have taken place in the past half-century under the influence of these and related movements, the College has played a leading part. To indicate this, one need mention only a few of the persons who have served on the faculty: Boyd H. Bode, B. R. Buckingham, W. W. Charters, Frank P. Graves, H. H. Goddard, A. J. Klein, Rudolph Pintner, Albert P. Weiss, and Laura Zirbes.

THE anniversary celebration that the College is conducting serves as a fitting close to its first half-century and an appropriate prelude to its second. It is a year-long affair, and comprises round-table discussions, conferences, lectures, festivals, and other events. It will culminate in a College-wide conference on April 26. The theme of the conference, and, less formally, of the entire celebration is "Education Looks to the Future."

The changes in education during the past half-century are indeed revolutionary. If a fourth-grade teacher in a typical school or a normal-school teacher of 1907 were to observe educational work today he might well think that he was on another planet.

The history of the College of Education during its first fifty years is the best guarantee of the quality of its service during its second half-century. The College of Education looks to the future with confidence.

R. H. E.

* * *

AN ANNOTATED bibliography on the gifted child, containing 123 references, is now available in mimeographed form from the Division of Student Personnel of the Bureau of Educational Research for 10¢ a copy. The references were compiled by Ruth E. Seeger, and annotated by Calhoun C. Collier and Yung Dug Lee under the direction of Marie A. Flesher. Copies may be ordered from Marie A. Flesher, Bureau of Educational Research, Ohio State University, Columbus 10, Ohio.